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EXAMINER	
TORRES, JUAN A	

ART UNIT	PAPER NUMBER
2631	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/865,409	MCCUNE, EARL W.	
	Examiner	Art Unit	
	Juan A. Torres	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-8,11-13 and 15-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-8,11-13 and 15-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5-31-05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 and 6-8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589) in view of Bottman (US 5578917).

As per claim 1, Nash discloses a method of receiving a communications signal to produce two output signals in quadrature relation to one another, comprising: deriving two reference signals from a single clock signal (figure 3 block 112, column 3 line 55); using the two reference signals, performing frequency downconversion of the communications signal to produce the two output signals (figure 3 blocks 106 and 108, column 3 line 53-54); forming an error signal representing the expectation of the product of the two output signals (figure 3 block 316, column 4 line 8-15); and using the error signal to adjust a phase difference between the reference signals (figure 3 blocks 322, 324 and 314, column 2 line 15-22). Nash doesn't disclose using an adjustable dual delay line in order to alter relative delay between two signals. Bottman discloses using an adjustable dual delay line in order to alter relative delay between two signals (figure 2 column 5 lines 10-65). Nash and Bottman are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay

line disclosed by Bottman. The suggestion/motivation for doing so would have been to highly accurate time intervals between selected points (Bottmann abstract). Therefore, it would have been obvious to combine Nash with Bottman to obtain the invention as specified in claim 1.

As per claim 6, Nash discloses a receiver for receiving a communications signal to produce two output signals in quadrature relation to one another, comprising: a local oscillator (figure 3 block 212, column 3 line 55); an adjustable phase shift network for deriving two reference signals from the local oscillator (figure 3 block 314, column 3 line 58-60); means for, using the two reference signals, performing frequency downconversion of the communications signal to produce the two output signals (figure 3 blocks 106 and 308, column 3 line 53-54); and a phase error detection network for forming an error signal representing the expectation of the product of the two output signals (figure 3 block 316, column 4 line 8-15). Nash doesn't disclose using an adjustable dual delay line to adjust a relative delay between two signals. Bottman discloses using an adjustable dual delay line in order to alter relative delay between two signals (figure 2 column 5 lines 10-65). Nash and Bottman are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Bottman. The suggestion/motivation for doing so would have been to highly accurate time intervals between selected points (Bottmann abstract). Therefore, it would have been obvious to combine Nash with Bottman to obtain the invention as specified in claim 6.

As per claim 7, Nash discloses claim 6. Nash also discloses that the phase error detection network comprises a multiplier for multiplying the two output signals to form a product signal (figure 3 block 320, column 4 line 10-13). Bottman discloses using an adjustable dual delay line in order to alter relative delay between two signals (figure 2 column 5 lines 10-65). Nash and Bottman are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Bottman. The suggestion/motivation for doing so would have been to highly accurate time intervals between selected points (Bottmann abstract). Therefore, it would have been obvious to combine Nash with Bottman to obtain the invention as specified in claim 7.

As per claim 8, Nash discloses claim 7. Nash also discloses that the phase error detection network comprises a low-pass filter for filtering the product signal to thereby produce the error signal (figure 3 block 322, column 4 line 17-19). Bottman discloses using an adjustable dual delay line in order to alter relative delay between two signals (figure 2 column 5 lines 10-65). Nash and Bottman are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Bottman. The suggestion/motivation for doing so would have been to highly accurate time intervals between selected points (Bottmann abstract). Therefore, it would have been obvious to combine Nash with Bottman to obtain the invention as specified in claim 8.

Claim 1, 4-8 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589) in view of Acker (US 3800228).

As per claim 1, Nash discloses a method of receiving a communications signal to produce two output signals in quadrature relation to one another, comprising: deriving two reference signals from a single clock signal (figure 3 block 112, column 3 line 55); using the two reference signals, performing frequency downconversion of the communications signal to produce the two output signals (figure 3 blocks 106 and 108, column 3 line 53-54); forming an error signal representing the expectation of the product of the two output signals (figure 3 block 316, column 4 line 8-15); and using the error signal to adjust a phase difference between the reference signals (figure 3 blocks 322, 324 and 314, column 2 line 15-22). Nash doesn't disclose using an adjustable dual delay line in order to alter relative delay between two signals. Acker discloses using an adjustable dual delay line in order to alter relative delay between two signals (figure 10 column 10 line 27 to column 11 line 36). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 1.

As per claim 4 Nash and Acker discloses claim 1. Acker also discloses the use of delay line to adjust the phase in a receiver (column 10 lines 42-49). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 4.

As per claim 5 Nash and Acker discloses claim 1. Acker also discloses the use of a dual delay line to automatically adjust the phase in a receiver (column 10 lines 42-49). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 5.

As per claim 6, Nash discloses a receiver for receiving a communications signal to produce two output signals in quadrature relation to one another, comprising: a local oscillator (figure 3 block 212, column 3 line 55); an adjustable phase shift network for deriving two reference signals from the local oscillator (figure 3 block 314, column 3 line

58-60); means for, using the two reference signals, performing frequency downconversion of the communications signal to produce the two output signals (figure 3 blocks 106 and 308, column 3 line 53-54); and a phase error detection network for forming an error signal representing the expectation of the product of the two output signals (figure 3 block 316, column 4 line 8-15). Nash doesn't disclose using an adjustable dual delay line to adjust a relative delay between two signals. Acker discloses using an adjustable dual delay line in order to alter relative delay between two signals (column 10 lines 42-49). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 6.

As per claim 7, Nash and Acker discloses claim 6. Nash also discloses that the phase error detection network comprises a multiplier for multiplying the two output signals to form a product signal (figure 3 block 320, column 4 line 10-13). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that

their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 7.

As per claim 8, Nash and Acker disclose claim 7. Nash also discloses that the phase error detection network comprises a low-pass filter for filtering the product signal to thereby produce the error signal (figure 3 block 322, column 4 line 17-19). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 8.

As per claim 15, Nash discloses an apparatus comprising a phase error detection network configured to receive in-phase (I) and quadrature-phase (Q) signals (figure 3 column 2line 58 to column 4 line 57), the phase error detection network including an error signal generator (figure 3 column 2line 58 to column 4 line 57). Nash doesn't disclose a dual delay line configured to receive a local oscillator signal that is configured to receive an error signal from the error signal generator and generate I and Q reference signals having a relative delay that is dependent on the error signal. Acker discloses a dual delay line configured to receive a local oscillator signal that is configured to receive an error signal from the error signal generator and generate I and

Q reference signals having a relative delay that is dependent on the error signal (figure 10 column 10 line 27 to column 11 line 36). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 15.

As per claim 16, Nash and Acker disclose claim 15. Nash also discloses a downconverter configured to receive a signal to be downconverted and having reference signal inputs configured to receive the I and Q reference signals (figure 3 blocks 110 and 308 column 2line 58 to column 4 line 57). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 16.

As per claim 17, Nash and Acker disclose claim 16. Nash also discloses that the downconverter comprises I and Q mixers.. (figure 3 blocks 110 and 308 column 2line 58

to column 4 line 57). Nash and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash the dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 17.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589) and Bottman (US 5578917) as applied to claim 1 above, in view of Acker (US 3800228).

As per claim 4 Nash and Bottman disclose the recitation of claim 1. Nash and Bottman do not teach the use of a manufactured adjusted delay line to adjust the phase difference. Acker teaches the use of delay line to adjust the phase in a receiver (column 10 lines 42-49). Nash, Bottman and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash and Bottman the adjustable dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 4.

As per claim 5 Nash and Bottman disclose the recitation of claim 1. Nash and Bottman do not teach the use of a dual delay line to automatically adjust the phase in a receiver. Acker teaches the use of a dual delay line to automatically adjust the phase in a receiver (column 10 lines 42-49). Nash, Bottman and Acker are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash and Bottman the adjustable dual delay line disclosed by Acker. The suggestion/motivation for doing so would have been delaying the data signals so that their delay is equal to the carrier phase estimation delay at the point where the final carrier phase correction is applied (Acker abstract). Therefore, it would have been obvious to combine Nash with Acker to obtain the invention as specified in claim 5.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589) and Bottman (US 5578917) as applied to claim 6 above in view of Kumar (US 5835850). Nash and Bottman disclose claim 6. Nash and Bottman don't disclose the use of Gilbert-cell mixers for performing frequency down-conversion. Kumar discloses the use of Gilbert-cell mixer to make frequency down-conversions in a receiver (column 5 lines 13-16). Nash, Bottman and Kumar are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash and Bottman Gilbert-cell mixer to make frequency down-conversions disclosed by Kumar. The suggestion/motivation for doing so would have been to use a low noise high intercept input mixer (Kumar column 5 lines 6-22). Therefore, it would have been

obvious to combine Nash and Bottman with Kumar to obtain the invention as specified in claim 11.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589) and Bottman (US 5578917) as applied to claim 6 above in view of Hislop (US 4492960). Nash and Bottman disclose claim 6. Nash and Bottman don't disclose the use of switch-mode mixers for performing frequency down-conversion. Hislop discloses the use of switch-mode mixers convert make frequency down-conversions in a receiver (figure 1 column 2 lines 4-46). Nash, Bottman and Hislop are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash and Bottman with the switch-mode mixers disclosed by Hislop. The suggestion/motivation for doing so would have been to allow the local oscillator to be used as the transmitter oscillator and also be used as an attenuator or signal modulator (Hislop abstract). Therefore, it would have been obvious to combine Nash and Bottman with Hislop to obtain the invention as specified in claim 12.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589), Bottman (US 5578917) and Hislop (US 4492960) as applied to claim 12 above and further in view of Hulkko (US 5734683). Nash, Bottman and Hislop disclose claim 12. Nash Bottman and Hislop don't disclose the use of local oscillator with a frequency that is a sub-harmonic of the input frequency. Hulkko discloses the use of local oscillators with a frequency that is a sub-harmonic of the input frequency (figures 2-4 column 6 lines 23-34). Nash, Bottman, Hislop and Hukko are analogous art because

they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash, Bottman and Hislop with the sub-harmonic of the frequency of the communication signal as taught by Hulkko. The suggestion/motivation for doing so would have been to save power when making the design and implementation of the local oscillator and to use over sampling (Hukko column 6 lines 1-8). Therefore, it would have been obvious to combine Nash, Bottman, Hislop with Hukko to obtain the invention as specified in claim 13.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589) and Acker (US 3800228) as applied to claim 6 above in view of Kumar (US 5835850). Nash and Acker disclose claim 6. Nash and Acker don't disclose the use of Gilbert-cell mixers for performing frequency down-conversion. Kumar discloses the use of Gilbert-cell mixer to make frequency down-conversions in a receiver (column 5 lines 13-16). Nash, Acker and Kumar are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash and Acker Gilbert-cell mixer to make frequency down-conversions disclosed by Kumar. The suggestion/motivation for doing so would have been to use a low noise high intercept input mixer (Kumar column 5 lines 6-22). Therefore, it would have been obvious to combine Nash and Acker with Kumar to obtain the invention as specified in claim 11.

Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589) and Acker (US 3800228) as applied to claim 6 and 15 above in view of Hislop (US 4492960).

As per claim 12 Nash and Acker disclose claim 6. Nash and Acker don't disclose the use of switch-mode mixers for performing frequency down-conversion. Hislop discloses the use of switch-mode mixers convert make frequency down-conversions in a receiver (figure 1 column 2 lines 4-46). Nash, Acker and Hislop are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash and Acker with the switch-mode mixers disclosed by Hislop. The suggestion/motivation for doing so would have been to allow the local oscillator to be used as the transmitter oscillator and also be used as an attenuator or signal modulator (Hislop abstract). Therefore, it would have been obvious to combine Nash and Acker with Hislop to obtain the invention as specified in claim 12.

As per claims 18 Nash and Acker disclose claim 15. Nash and Acker don't disclose a switch driver configured to receive the I and Q reference signals and generate drive signals; and I and Q switches configured to receive I and Q drive signals from said switch driver. Hislop discloses a switch driver configured to receive the I and Q reference signals and generate drive signals; and I and Q switches configured to receive I and Q drive signals from said switch driver (figure 1 column 2 lines 4-46). Nash, Acker and Hislop are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to combine in the receiver by Nash and Acker with the switch-mode mixers disclosed by Hislop. The suggestion/motivation for doing so would have been to allow the local oscillator to be used as the transmitter oscillator and also be used as an attenuator or signal modulator (Hislop abstract). Therefore, it would have been obvious to combine Nash and Acker with Hislop to obtain the invention as specified in claim 18.

Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nash (US 6317589), Acker (US 3800228) and Hislop (US 4492960) as applied to claim 12 and 18 above and further in view of Hulkko (US 5734683).

As per claim 13 Nash, Acker and Hislop disclose claim 12. Nash, Acker and Hislop don't disclose the use of local oscillator with a frequency that is a sub-harmonic of the input frequency. Hulkko discloses the use of local oscillators with a frequency that is a sub-harmonic of the input frequency (figures 2-4 column 6 lines 23-34). Nash, Acker, Hislop and Hukko are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash, Acker and Hislop with the sub-harmonic of the frequency of the communication signal as taught by Hulkko. The suggestion/motivation for doing so would have been to save power when making the design and implementation of the local oscillator and to use over sampling (Hukko column 6 lines 1-8). Therefore, it would have been obvious to combine Nash, Acker, Hislop with Hukko to obtain the invention as specified in claim 13.

As per claim 19 Nash, Acker and Hislop disclose claim 18. Nash, Acker and Hislop don't disclose the use of local oscillator with a frequency that is a sub-harmonic of the input frequency. Hulkko discloses the use of local oscillators with a frequency that is a sub-harmonic of the input frequency (figures 2-4 column 6 lines 23-34). Nash, Acker, Hislop and Hukko are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the receiver by Nash, Acker and Hislop with the sub-harmonic of the frequency of the communication signal as taught by Hulkko. The suggestion/motivation for doing so would have been to save power when making the design and implementation of the local oscillator and to use over sampling (Hukko column 6 lines 1-8). Therefore, it would have been obvious to combine Nash, Acker, Hislop with Hukko to obtain the invention as specified in claim 19.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
06-20-2005

KEVIN BURD
PRIMARY EXAMINER